

Work Order ID 146946

146946

Page 1

Tuesday, May 24, 2016 10:03:20 AM

Item ID: D2940-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Support
 Start Date: 7/8/2016 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 7/15/2016 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: MAY 26 2016 Tooling: Date:
 QC: Date: SPC (Y/N): Date:
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2940	C								
100	HAAS CNC VERTICAL MACHINING #1	0.41				8	0		DAS 14 9-89 16/06/08
100									
HAAS 1	Memo	3.42							
HAAS CNC vertical machine #1	1-Machine as per Folio FA079 2-Deburr								
110	QC2- Inspect parts off machine FAI/FAIB	0.00				8	0		DAS 14 9-89 16/06/08
110									
QC	Memo	0.06							
Quality Control									
120	QC8- Inspect parts - second check	0.00				8	0		DAS 08 9-89
120									
QC	Memo	0.12							
Quality Control									

16/06/14

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : ☐									

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Page 2

Item ID: D2940-1 Accept ***N900040100*** Setup Start ***NS1***
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 Item Name: Support
 Start Date: 7/8/2016 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 7/15/2016 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							DAS 41 9-89
130						8			
HandFXtube	Memo	0.42							16-6-15
Hand Finishing Crosstubes	Per note 8 on page 1 of dwg D2940, Prep inner concave surface of support and apply 3M Scotch-Weld as per dwg. 24h of cure time.	132391							
140	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
140						8			
QC	Memo	0.12							JUN 16 2016
Quality Control									
170	Identify as per dwg & Stock Location: _____	0.00							
170						8			JUN 20 2016
Packaging	Memo	0.06							DAS 6 9-89
Packaging	LOCATION: LG052								

DQA: _____ Date: _____



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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 146946

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146946

Page 3

Item ID: D2940-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Support

Stop ***NS2***

Start Date: 7/8/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 7/15/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.60

Quality Control

JUN 21 2016

u 16-06-20

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

Tuesday, May 24, 2016 10:03:20 AM

Page 1

Work Order ID: 146946

146946

Parent Item: D2940-1

D2940-1

Parent Item Name: Support

Start Date: 7/8/2016

Required Date: 7/15/2016

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP C 02.11.26Reformat; Added P/OKJ
 IPP Rev:D Added priming as per Rev B 07-04-30 JLM
 IPP E 08.03.19 Re-format Ec verified by DD
 IPP Rev:F 08-10-22 add qc14 DD verified by:EC
 11.08.04 as per dwg rev.C DD verf:EC
 IPP Rev:G

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
DSK081		Manufactured	No			110	Each	10.0000	0.5	4			

DSK081

D2940-1 Turning Detail

DAS

14

9-29

Location

Loc Qty

Loc Code

MAT060

10

141305

10

4

16/06/08

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

DART AEROSPACE LTD		Work Order:	146946
Description: Ø3.250 Support		Part Number:	D2940-1
Inspection Dwg: D2940	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	0.240	0.260		.250	.250	.250	.250	.250
AB	0.490	0.510		.500	.500	.500	.500	.500
AC	0.140	0.160		.150	.150	.150	.150	.150
AD	3.510	3.530		3.528	3.527	3.524	3.524	3.523
AE	1.633	1.673		1.659	1.659	1.657	1.659	1.660
AF	1.493	1.513		1.497	1.501	1.502	1.506	1.506
AG	0.040	0.060		.044	.047	.053	.052	.052
AH	0.188	0.193		.190	.190	.190	.190	.190
AI	0.140	0.160		.143	.148	.150	.153	.153
AJ	2.518	2.538		2.530	2.530	2.530	2.530	2.530
AK	0.040	0.060		.050	.050	.050	.050	.050
AL	0.010	0.020		.010	.010	.010	.010	.010
AM	0.140	0.160		.155	.155	.155	.155	.155
AN	0.350	0.450		.360	.360	.360	.360	.360
AO	0.240	0.260		.250	.250	.250	.250	.250
AP	0.150	0.170		.162	.159	.156	.153	.156
AQ	0.053	0.073		.063	.063	.063	.063	.063
AR	101.64	105.64		103.64	103.64	103.64	103.64	103.64
AS	0.260	0.267		.262	.262	.262	.262	.262
AT	0.053	0.073		.063	.063	.063	.063	.063
AU	4.118	4.138		4.125	4.125	4.127	4.127	4.128
AV								
AW								
Accept/Reject								

Measured by:	DAS 14 000 JL	Date:	16/06/08
Audited by:	B.A. DAS 08	Date:	16/06/14
Prototype Approval:	9-89	Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	
B	07.05.08	Dwg Rev. updated	KJ/JLM	
C	07.07.18	Dimension AS revised	KJ/JLM	
D	08.04.22	Reformat	KJ/JLM	
E	12.01.31	Dwg Rev. updated	KJ	

DART AEROSPACE LTD		Work Order:	146946
Description: Ø3.250 Support		Part Number:	D2940-1
Inspection Dwg: D2940	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	16	17	18	4	5
HAAS Section								
AA	0.240	0.260		.250	.250	.250		
AB	0.490	0.510		.500	.500	.500		
AC	0.140	0.160		.150	.150	.150		
AD	3.510	3.530		3.523	3.525	3.525		
AE	1.633	1.673		1.660	1.664	1.663		
AF	1.493	1.513		1.505	1.508	1.507		
AG	0.040	0.060		.051	.053	.051		
AH	0.188	0.193		.190	.190	.190		
AI	0.140	0.160		.151	.150	.151		
AJ	2.518	2.538		2.530	2.530	2.530		
AK	0.040	0.060		.050	.050	.050		
AL	0.010	0.020		.010	.010	.010		
AM	0.140	0.160		.155	.155	.155		
AN	0.350	0.450		.360	.360	.360		
AO	0.240	0.260		.250	.250	.250		
AP	0.150	0.170		.156	.156	.156		
AQ	0.053	0.073		.063	.063	.063		
AR	101.64	105.64		103.64	103.64	103.64		
AS	0.260	0.267		.262	.262	.262		
AT	0.053	0.073		.063	.063	.063		
AU	4.118	4.138		4.128	4.129	4.129		
AV								
AW								
Accept/Reject								

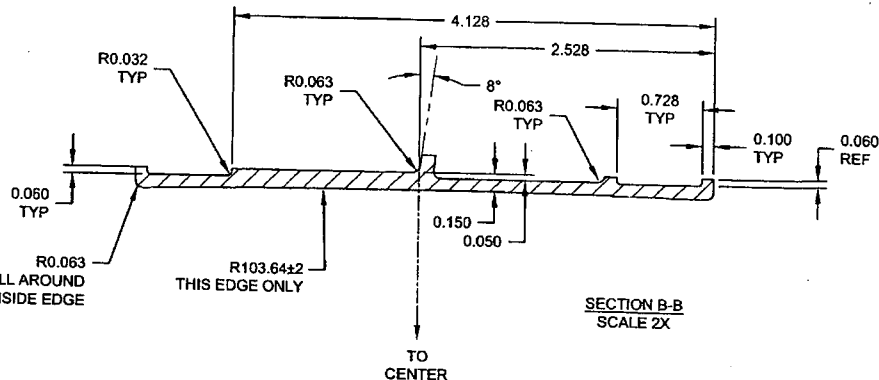
Measured by:	DL	Date:	16-6-9
Audited by:	B.A	Date:	16/06/14
Prototype Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	
B	07.05.08	Dwg Rev. updated	KJ/JLM	
C	07.07.18	Dimension AS revised	KJ/JLM	
D	08.04.22	Reformat	KJ/JLM	
E	12.01.31	Dwg Rev. updated	KJ	

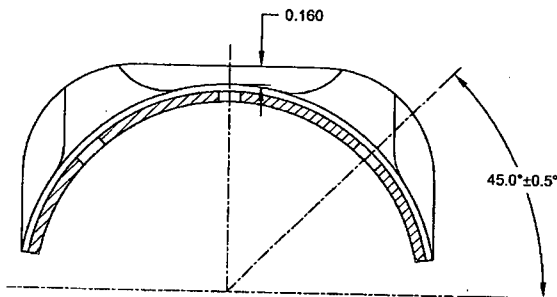
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NOT A COPY
RETURN TO
ENGINEERING
FOR THE LATEST COPY
OF THE DRAWING
FOR THE LATEST
REVISION

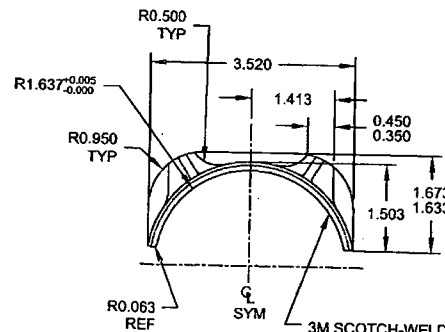
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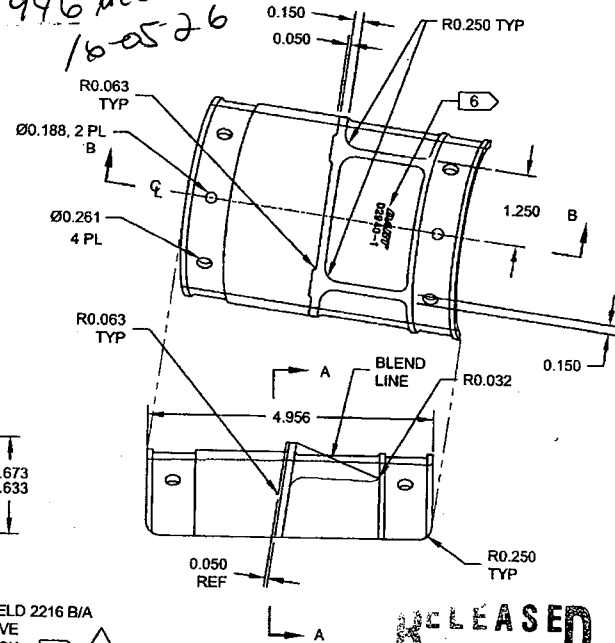
SECTION B-B
SCALE 2X



SECTION A-A
TOOLING HOLE DETAIL
SCALE 2X



D2940-1 SUPPORT



RELEASED
2011-07-28

NOTES:

- 1) MATERIAL: 17-4 PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
(REF DART SPEC. D6104)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 (REF X.XXX = ±0.010) UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO (PER DART SUPPLIED GRAPHIC) AND PART NUMBER IN THIS AREA WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP, PER DART QSI 044 6.3.
- 7) WEIGHT: 0.92 lb
- 8) FOR THE ENTIRE INNER CONCAVE SURFACE:
ABRADE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE FOR 24 HOURS.

C	RMV FINISH, ADD 3M 2216, ADD H925 MAT'L OPTION	CP	11.07.15
B	UPDATE PER NCR 642, PRIME INSIDE	PH	07.03.13
A	NEW ISSUE	CP	01.01.10
REV.	DESCRIPTION	BY	DATE
DESIGN	Q		
DRAWN	Q		
CHECKED	ASS		
MFG. APPR.	ASS		
APPROVED	ASS		
DE APPR.	ASS		
DATE	11.07.15		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2940
REV. C
SHEET 1 OF 1
SCALE NTS

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